

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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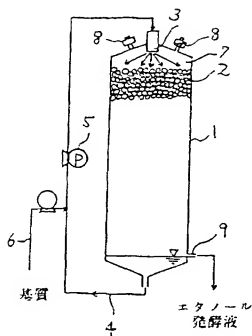
APPLICATION DATE : 26-04-89  
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APPLICANT : MORITA KK;

INVENTOR : HATANAKA HIDETAKA;

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TITLE : TRICKLING FILTER TYPE  
BIOREACTOR



ABSTRACT : PURPOSE: To immobilize many microbes in the bioreactor and to promote their propagation by packing a granular carrier for immobilizing the yeast obtained by crushing a porous ceramic to a specified grain diameter and providing a circulating line for spraying a fermentation soln. sucked up from the bottom from a spray nozzle.

CONSTITUTION: A porous ceramic having a high fungus body immobilizing capacity is crushed to 1.5-20mm grain diameter, and the crushed ceramic is randomly packed in the reactor 1. The fermentation soln. is sucked up by a pump 5 from the bottom of the reactor 1 and sprayed from the spray nozzle 3. The filtered fresh air is introduced into the reactor 1 to supply oxygen to the upper space 7. Consequently, the amt. of the immobilized fungus body is increased, high productivity of the desired material is secured, the reactor is hardly clogged, and the activity of the microbes is stabilized over a long period since oxygen is sufficiently supplied.

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